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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,876	06/20/2005	Christine Power	SLII-P01-001	6247

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EXAMINER	
DEBERRY, REGINA M	
ART UNIT	**PAPER NUMBER**
1647	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/510,876	POWER ET AL.	
	Examiner	Art Unit	
	Regina M. DeBerry	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-34 and 42-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-34 and 42-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/7/08, 7/7/08, 7/21/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Status of Application, Amendments and/or Claims

The amendment and Applicant's arguments, filed 07 May 2008, have been entered in full. Claims 1-25 and 35-41 are canceled. Claims 49-51 were withdrawn from consideration as being drawn to a non-elected invention (07 November 2007).

In light of the instant amendment and Applicant's request, claims 49-51 will be joined with Group I. Claims 26-34 and 42-51 are under examination.

The Vitte Declaration under 37 CFR 1.132, filed 07 May 2008, has been entered.

Information Disclosure Statement

The information disclosure statement(s) (IDS) (filed 21 July 2008; 07 July 2008 and 07 May 2008) were received and comply with the provisions of 37 CFR §§1.97 and 1.98. They have been placed in the application file and the information referred to therein has been considered as to the merits.

Withdrawn Objections And/Or Rejections

The specification is in compliance with 37 CFR 1.821-1.825 of the Sequence Rules and Regulations.

The rejection to claims 26-34, 42-48 under 35 U.S.C. 112, second paragraph, as set forth at pages 3-4 of the previous Office Action (07 November 2007), is *withdrawn* in view of the amendment (07 May 2008).

The rejection to claims 26-34, 42 and 48 under 35 U.S.C. 102(e) as being anticipated by Dunstan, US 2006/0019887 A1, as set forth at pages 8-9 of the previous Office Action (07 November 2007), is *withdrawn* in view of the amendment (07 May 2008).

The rejection to claims 26-34, 42 and 48 under 35 U.S.C. 102(e) as being anticipated by Boyle et al., U.S. 7,005,413 B1, as set forth at pages 9-10 of the previous Office Action (07 November 2007), is *withdrawn* in view of the amendment (07 May 2008).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ.645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 26-34 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 32-66 of copending Application No. 10/966,845 in view of Franklin, Biochemical Pharmacology, Vol. 49, No. 3, pages 267-273 (1995). The basis for this rejection is set forth at pages 10-12 of the previous Office Action (07 November 2007).

Applicant requests that the Examiner hold this rejection in abeyance until this rejection is the sole remaining rejection in either the instant application or Application 10/966,845. The instant rejection is maintained for reasons of record.

Claim Rejections-35 USC § 112, First Paragraph, Scope of Enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 26-34 and 42-51 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for

a method for treating and/or inhibiting progression and/or symptoms of a fibrotic disease selected from scleroderma, fibrosis of the skin, Dupuytren's contracture, keloid, scarring and fibrosis of the pancreas comprising administering to a patient in need of treatment therefore a therapeutically effect amount of **a)** a polypeptide comprising SEQ ID NO:2 or SEQ ID NO:4; **b)** a polypeptide comprising amino acids 22 to 401 of SEQ ID NO:2 or SEQ ID NO:4; **c)** a polypeptide comprising amino acid 22 to 194 of SEQ ID NO:2 or SEQ ID NO:4; **d)** a mutein of a-c, wherein the amino acid sequence has at

least 90% identity to at least one of the sequences in a-c; **e)** a mutein of a-c which is encoded by a DNA sequence which hybridizes to the complement of the DNA sequence encoding any of a-c under washing conditions of 12-20°C below the calculated Tm of the hybrid of the DNA sequence of the mutein and the complement in 2 x SSC and 0.5% SDS for 5 minutes and which reduces collagen synthesis; **g)** a salt or fused protein of a-e;

does not reasonably provide enablement for:

a method for treating and/or inhibiting progression and/or symptoms of a fibrotic disease selected from scleroderma, fibrosis of the skin, Dupuytren's contracture, keloid, scarring and fibrosis of the pancreas comprising administering to a patient in need of treatment therefore a therapeutically effect amount of **f) a mutein of a-c, wherein any changes in the amino acid sequence are conservative amino acid substitutions to the amino acid sequences in a-c.**

The basis for this rejection is set forth at pages 4-8 of the previous Office Action (07 November 2007).

Applicant argues that the Vitte Declaration demonstrates that a fusion protein that includes 22-194 of OPG is sufficient for activity. The Vitte Declaration teaches that bleomycin is used in art-recognized animal models to induce fibrosis. The declaration teaches that the N-terminal region of OPG with the amino acids 22-194 is sufficient to induce the anti-fibrotic effect of OPG in a mouse model of lung fibrosis induced by bleomycin. The declaration states that based upon the data, a peptide comprising a

sequence having at least 90% identity with amino acids 22-194 would have an anti-fibrotic effect

Applicant arguments have been fully considered and are deemed partly persuasive. The Vitte Declaration under 37 CFR 1.132, filed 07 May 2008, is *partly sufficient* to overcome the rejection of claims 26-34 and 42-51 based upon 35 U.S.C. 112, first paragraph, scope of enablement. Claim 26 f) is drawn to a mutein of a-c, wherein ***any changes in the amino acid sequence*** are conservative amino acid substitutions to the amino acid sequences in a-c. The instant claims do not place any limit on the number of substitutions that can be made to the instant sequence. Thus, the scope of the instant claim includes numerous structural variants, and the genus is highly variant because a significant number of structural differences between genus members are permitted. Because the majority of the species of the genus do not obviously comprise just SEQ ID NO:2 or SEQ ID NO:4, it would require an indeterminate quantity of fundamentally unpredictable investigational experimentation of the skilled artisan to determine whether any modified polypeptide (as recited in the instant claims) could be used in the same manner as the native exemplar (treatment of a fibrotic disease). The Examiner submitted art in the previous Office Action, which teach that certain positions in the sequence are critical to the protein's structure/function relationship and that these regions can tolerate only relatively conservative substitutions or no substitutions. It is in no way predictable that randomly selected/unlimited substitutions in the disclosed sequence would afford a protein having activity comparable to the one disclosed.

Furthermore, the Vitte Declaration teaches that the N-terminal region of OPG with the amino acids 22-194 is sufficient to induce the anti-fibrotic effect of OPG.

The scientific reasoning and evidence as a whole indicates that the rejection should be maintained.

NEW CLAIM REJECTIONS/OBJECTIONS

Claim Rejections-35 USC § 112, First Paragraph, Written Description

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 26-34 and 42-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant is reminded of the revision to the Written Description Training Materials, created on March 25, 2008, to supersede and replace the 1999 training materials (www.uspto.gov/web/menu/written.pdf).

The claimed subject matter is not supported by an adequate written description because a representative number of species has not been described. The specification discloses species SEQ ID NO:2 and SEQ ID NO:4. However, there is no teaching of OPG proteins comprising SEQ ID NO:2 or SEQ ID NO:4 (or sequences comprising

amino acids 22-401, 22-194 of SEQ ID NO:2 or SEQ ID NO:4), wherein *any changes in the amino acid sequence* are conservative amino acid substitutions to the amino acid sequences (i.e. claim 26f). The instant claims does not place any limit on the number of substitutions that can be made to the instant sequences. The instant claim includes numerous structural variants, and the genus is highly variant because a significant number of structural differences between genus members are permitted. The specification does not describe any members of the claimed genus by complete structure. That is to say, the specification does not describe the structure for unlimited/any substitution variants of SEQ ID NO:2 or SEQ ID NO:4. No common structural attributes identify the members of the instant substitution variant. Because the disclosure fails to describe the common attributes/characteristics that identify unlimited/any substitution variant members of the genus, and because the genus is highly variant, SEQ ID NO:2 and SEQ ID NO:4 are insufficient to describe the genus. One skilled in the art would reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus and that Applicant was not in possession of the claimed genus.

Claim Rejections-35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27, 43 and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 27 and 50 recite the limitation "wherein the fibrotic disease is a **connective tissue disease**." Claims 27 and 50 depend from claim 26, which recites "...a fibrotic disease selected from scleroderma, fibrosis of the skin, Dupuytren's contracture, keloid, scarring and fibrosis of the pancreas..". There is insufficient antecedent basis for the limitation "connective tissue disease" in the instant claims.

Claim 43 is indefinite because of the recitation, "..produced by a cell genetically modified to produce said substance". It is unclear if the instant claim encompasses a substance being produced by a transgenic animal or produced recombinantly. If the latter case is correct, amending the claim to recite, "produced by an *isolated* cell genetically modified to produce said substance" would be remedial.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina M. DeBerry whose telephone number is (571) 272-0882. The examiner can normally be reached on 9:00 a.m.-6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manjunath N. Rao can be reached on (571) 272-0939. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marianne P. Allen/
Primary Examiner, Art Unit 1647

/RMD/
8/13/08